

## IN THE CLAIMS

What is claimed is:

1    **1.**     A system, comprising:

2               a receive subsystem that includes

3               a receive first-in-first-out buffer (FIFO) having a plurality of  
4               entries, each receive FIFO entry storing voice packet data and  
5               corresponding control data for the voice packet data, the control data  
6               indicating packet layer information corresponding to the voice packet  
7               data; and

8               a receive queue having a plurality of queue entries, each queue  
9               entry storing queue information for each packet stored in the receive  
10              FIFO, the queue information including a packet standard value that  
11              indicates when the packet corresponding to the entry passes  
12              predetermined header processing filters.

1    **2.**     The system of claim 1, wherein:

2               the control data indicates voice data packet corresponding to a layer 3  
3               packet header and a layer 4 packet header.

1    **3.**     The system of claim 1, wherein:

2               the control data indicates starting portions of packet, middle portions  
3               of the packet, and ending portions of the packet.

1    **4.**    The system of claim 1, wherein:  
2                   the packet standard value indicates that a packet layer 3 field matches  
3                   at least one predetermined layer 3 address.

1    **5.**    The system of claim 1, wherein:  
2                   the packet standard value indicates that a packet layer 4 field matches  
3                   at least one predetermined value layer 4 address.

1    **6.**    The system of claim 1, further including:  
2                   a receive pipeline that forwards voice packet data of an entry from the  
3                   receive FIFO according to the control data for the entry.

1    **7.**    The system of claim 6, wherein:  
2                   the receive pipeline includes  
3                   an input coupled to the receive FIFO,  
4                   a layer 2 processor that selectively removes layer 2 information  
5                   from voice packet data, and  
6                   a layer 3 processor that selectively removes layer 3 information  
7                   from voice packet data.

1    **8.**    The system of claim 7, wherein:  
2                   the layer 3 processor stores selected layer 3 information.

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1    **9.**     The system of claim 7, further including:  
2                 a layer 4 processor that selectively removes layer 4 information from  
3                 voice packet data.

1    **10.**    The system of claim 9, wherein:  
2                 the layer 4 processor stores selected layer 4 information.

1    **11.**    The system of claim 1, further including:  
2                 a direct memory access controller that transfers voice packet data of an  
3                 entry from the receive FIFO according to the control data for the entry.

1    **12.**    The system of claim 11, further including:  
2                 a receive arbitrator coupled to the receive queue that controls the  
3                 transfer of voice packet data from the receive FIFO the receive pipeline and  
4                 direct memory access controller according to the queue information of the  
5                 receive queue.

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1    **13.**    A system for distinguishing between types of voice packets, comprising:  
2               a voice packet memory having a plurality of storage locations for  
3               storing voice packet data;  
4               a pre-processing path coupled to the voice packet memory that  
5               includes a plurality of layer processors that remove header information from  
6               voice packet data; and  
7               a direct memory access path coupled to the voice packet memory that  
8               transfers voice packet data to the voice packet memory.

1    **14.**    The system of claim 13, wherein:  
2               the pre-processing path includes a layer register that stores selected  
3               header field data from the voice packet data.

1    **15.**    The system of claim 14, wherein:  
2               the header field data includes an Internet protocol source address..

1    **16.**    The system of claim 14, wherein:  
2               the header field data includes a User Datagram Protocol (UDP)  
3               destination port value.

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1    **17.**    The system of claim 14, further including:  
2               a receive process subsystem that receives header field data from the  
3    layer register and voice packet data from the pre-processing path and  
4    generates voice packet memory address locations for the voice packet data.

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1 **18.** A system for processing voice-over-network data packets, comprising:

2 a voice packet memory having a plurality of storage locations;

3 a receive subsystem that includes

4 a first data path for transferring voice data packets to the voice  
5 memory, and

6 a second data path for removing and storing header information  
7 of a voice data packet and outputting voice data; and

8 a receive processor subsystem that receives stored header information  
9 from the second path and generates voice packet memory address locations  
10 for voice data output from the second data path.

1 **19.** The system of claim 18, wherein:

2 the receive subsystem further includes a receive first-in-first-out buffer  
3 (FIFO) having a receive FIFO input that receives voice data packets and a  
4 receive FIFO output coupled to the first data path and second data path.

1 **20.** The system of claim 18, further including:

2 a network interface coupled to the receive subsystem that includes

3 a media access control core coupled to a media interface for  
4 decoding voice data packets transmitted on a transmission media; and

5 a transaction layer first-in-first-out buffer (FIFO) that stores  
6 portions of voice data packets decoded by the media access control  
7 core.